

# IMPLEMENTATION OF A CARE BUNDLE IN ACUTE EXACERBATIONS OF CHRONIC OBSTRUCTIVE PULMONARY DISEASE (COPD)

Ryan Walsh, Joseph Timmons, Julia Gallagher, Joan Brand, Andrew McLeish, Marion Mackie, John Duncan, Isabel Bryce, Mark Cotton, Hannah Bayes

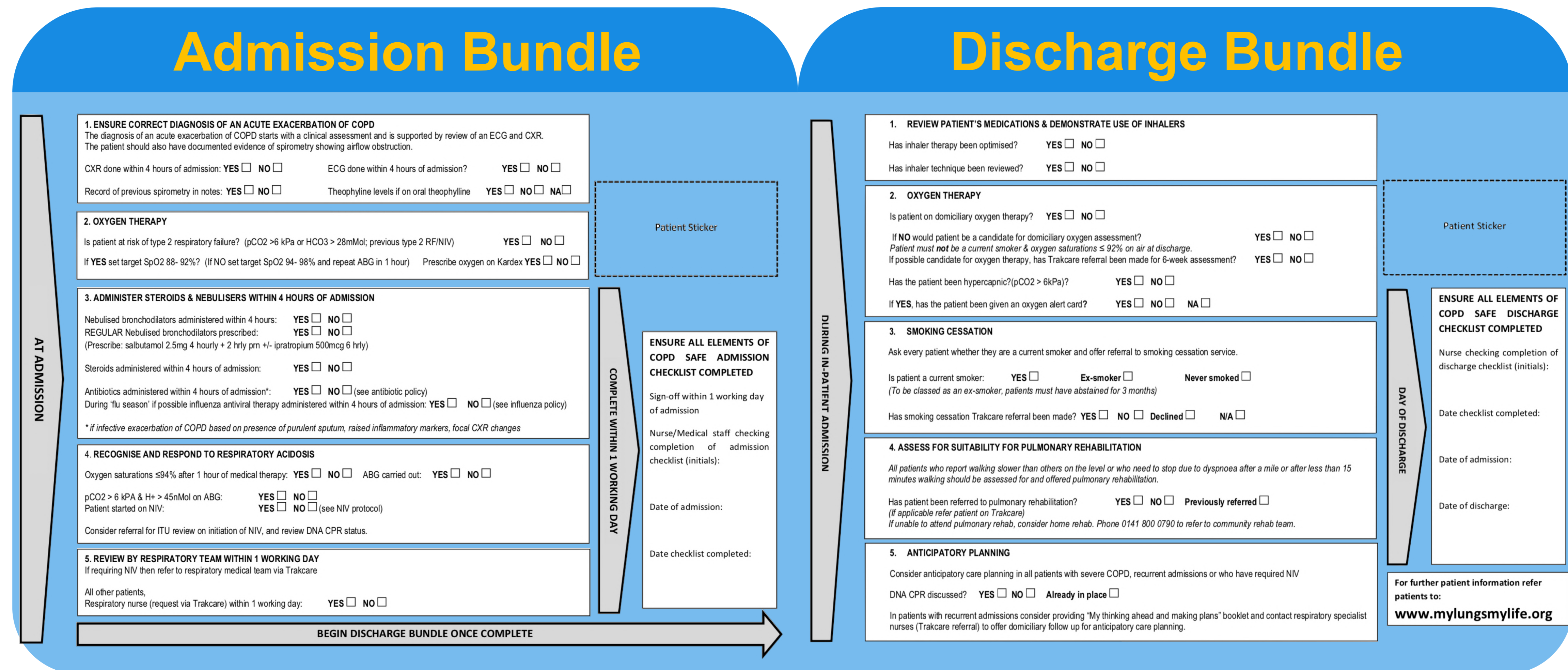


## Introduction

- COPD is a very common condition with exacerbations being responsible for more than one million beds per annum; it is the most common cause of admission to hospital accounting for ~12% of admissions in the UK. COPD has the highest rates of readmission of any single condition with one third of these patients being readmitted within 90 days of discharge.
- Significant variations in outcomes and provision of care have been noted in studies to be beneficial to reductions in days to readmission. Therefore our unit at the Glasgow Royal Infirmary aimed to develop and pilot the use of a COPD Care Bundle to highlight and improve deficiencies in management of COPD.

## Developing the Bundle

- Our unit developed a local admission and discharge care bundle, based on local experience, national guidelines, literature review and multidisciplinary team input.
- The admission bundle aimed to improve immediate management of COPD, highlight deteriorating patients and implement earlier interventions to prevent further decline to reduce length of stay.
- The discharge bundle aimed to ensure safe discharge of COPD patients with appropriate referral to respiratory service provision, such as smoking cessation and pulmonary rehabilitation.



## Results Continued...

- Bundle uptake was low at 15.7%.
- Bundle use showed significant improvements in:
  - Target O2 saturation documentation (60.5% pre-bundle vs. 93.8% with Bundle use,  $p = 0.0146$ ),
  - Smoking cessation referrals (18.2% vs. 57.1%,  $p = 0.0446$ )
  - Referral to respiratory nurse specialist services (assessment of inhaler technique, need for pulmonary rehabilitation and home oxygen; 44.7% vs. 87.5%,  $p = 0.0037$ ).

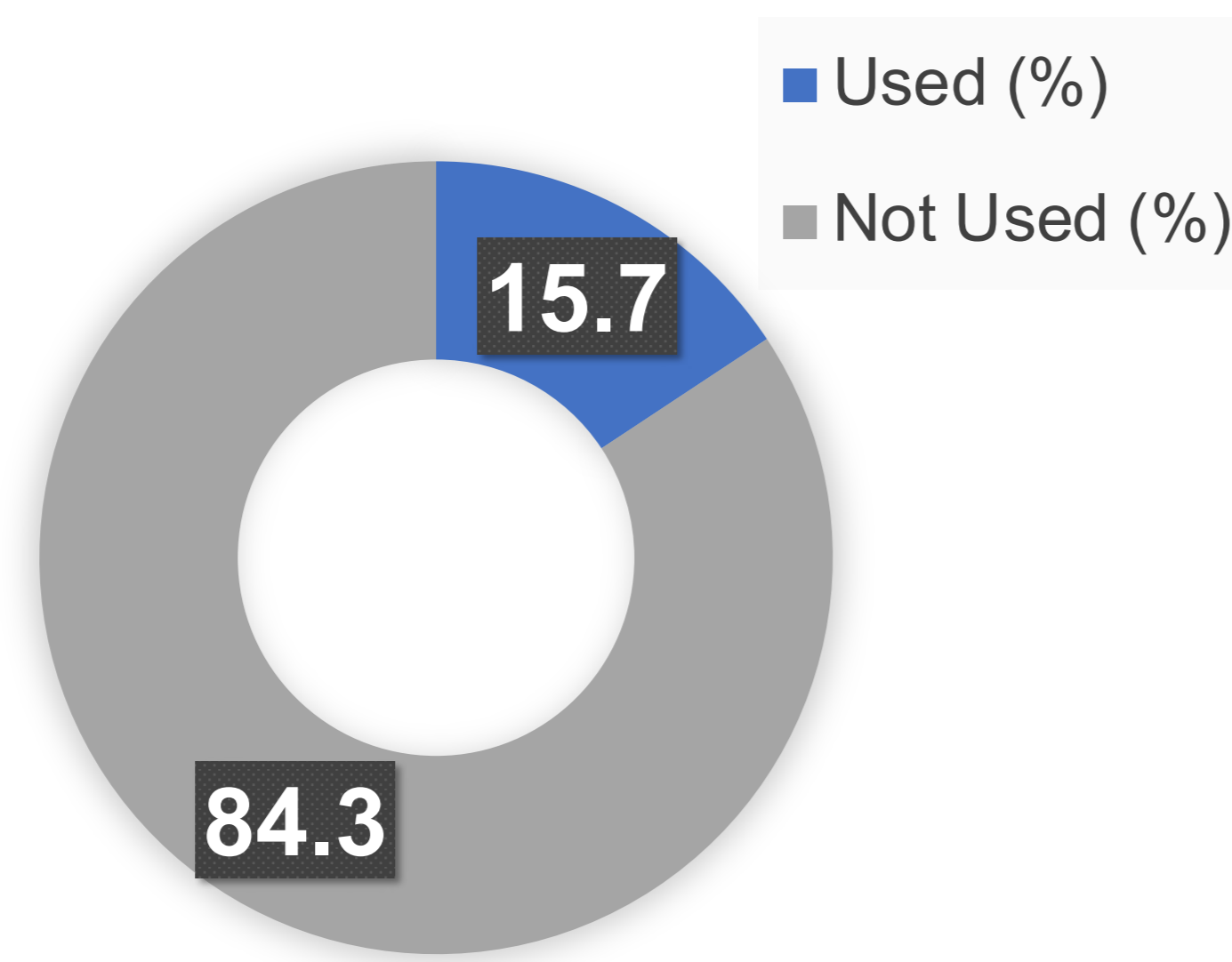
## Conclusion

The introduction of a COPD Care Bundle has shown to increase documentation of various practice parameters such as target O2 Saturations and whether or not inhaler technique was reviewed and optimized. Furthermore access to additional service provision was increased as more referrals to smoking cessation, pulmonary rehabilitation and assessment for long term oxygen therapy were made per patient. Still it remains apparent that low uptake of the Bundle was a significant limiting factor, thus readmission rates did not change significantly. Staff feedback highlights that an electronic version of the care bundle would be more convenient and timesaving. Such an electronic Bundle has now been developed and will be implemented and assessed later this year. This aims to collectively refer patients to services using one online Trakcare form.

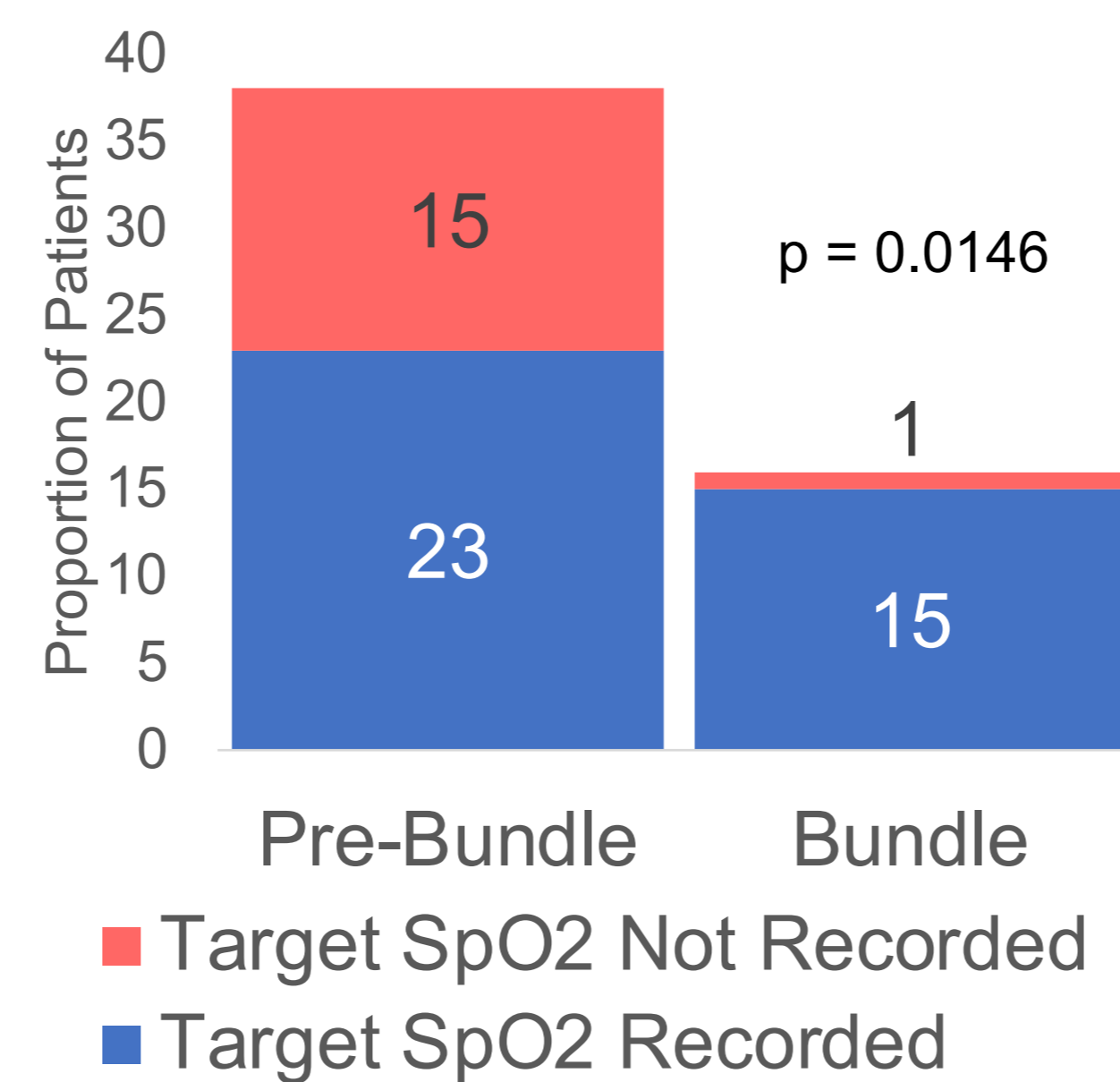
## Methods & Data Collection

- During a 4-month period in 2018 our paper-based COPD Bundle was distributed throughout Glasgow Royal Infirmary for use in all patients admitted with an exacerbation of COPD. A corresponding 4-month period in 2017 was retrospectively analysed.
- Data to assess adherence with admission & discharge bundle indices was obtained from review of patient notes, kardex & respiratory nurse specialist entries.
- Time to readmission with COPD following the index presentation and re-admission frequency was assessed at 3 and 6 months.

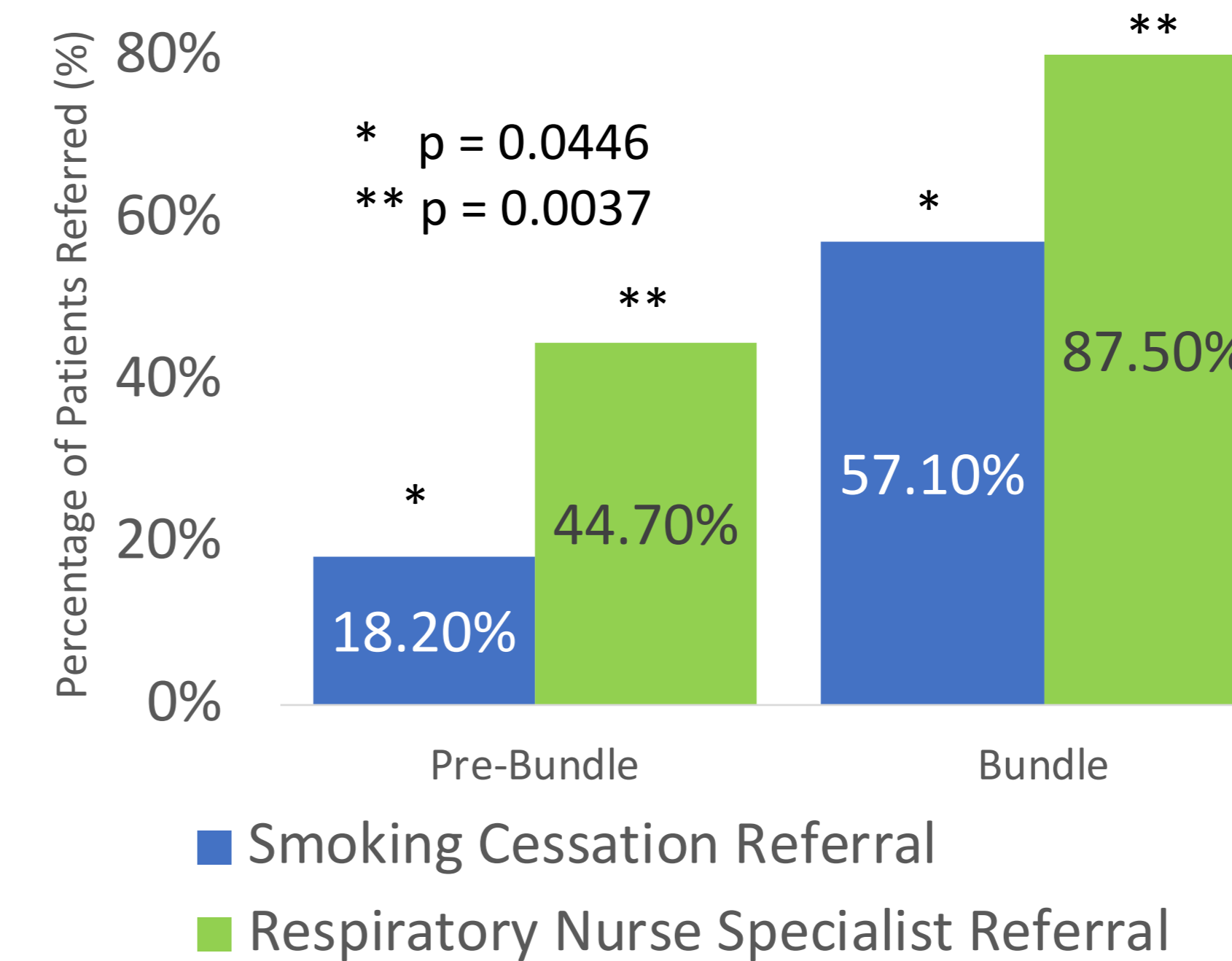
### Percentage Of Care Bundle Uptake



### Target Oxygen Saturation Documentation



### Referral to Respiratory Services



## Results

- There was no significant difference in initial management of COPD i.e. time to CXR, nebulisers, antibiotics and steroids.
- In the limited period of the project there was no difference in time to readmission or readmission rates following Bundle introduction.